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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/963,269

09/26/2001

Stephen A. Morgan

NTR-100US

8378

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7590

12/30/2003

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EXAMINER

WALLING, MEAGAN S

ART UNIT

PAPER NUMBER

2863

DATE MAILED: 12/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/963,269

Applicant(s)

MORGAN, STEPHEN A.

Examiner

Meagan S Walling

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-10, 12-20, 22-25, 28-44 and 46-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-10, 12-20, 37-44, 46-48 and 50-53 is/are allowed.
- 6) ☒ Claim(s) 22-25 and 28-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 48 and 28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not discuss all of the limitations of claim 49, such as the thermal converter for positioning between the infrared sensor and the filter.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 29, 30, 33, and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Morinaka et al. (US 5,877,688).

Regarding claims 29 and 33, Morinaka et al. teaches an infrared sensor (Fig. 1, Ref. 1); and an infrared emitter in temperature communication with one of the plurality of refrigeration

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components, wherein the infrared emitter emits infrared radiation to the infrared sensor responsive to the temperature of one of the refrigeration component (see column 1, lines 60-65).

Regarding claims 30 and 34, Morinaka et al. teaches a display coupled to the infrared sensor to provide a temperature reading from the infrared sensor to a user (Fig. 10, Ref. 27 – column 5, lines 58-61).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tabata et al. (US 6,513,970) in view of Morinaka et al. and Lemelson (US 5,181,521).

Regarding claim 22, Tabata et al. teaches an infrared sensor (Fig. 1, Ref. 20); a display coupled to the infrared sensor to provide a temperature reading from the infrared sensor to the user (Fig. 19, Ref. 83); and a filter for positioning between the infrared sensor and the refrigeration component (column 2, lines 49-55).

Tabata et al. does not teach that the display is coupled to the infrared sensor by a flexible support or an infrared emitter, wherein the infrared emitter is applied to the refrigeration component, the infrared emitter emitting infrared radiation to the infrared sensor based on the temperature of the refrigeration component.

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Lemelson teaches a thermometer with a sensor (Fig. 1, Ref. 23) connected to a housing (Fig. 1, Ref. 11) containing a display (Fig. 1, Ref. 12; column 5, lines 12-13) by a flexible support (Fig. 1, Ref. 27).

Morinaka et al. teaches an infrared emitter that emits infrared radiation to the infrared sensor responsive to the temperature of one of the refrigeration component (see column 1, lines 60-65).

It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Tabata et al. with the teachings Lemelson of and Morinaka et al. The motivation for this combination would be to be able to see the display if the sensor is placed in a hard to reach area or an area too small to fit both the sensor and the display. The motivation for using an infrared emitter would be to more easily sense the rays given off by the object whose temperature is being measured to ensure accurate readings.

4. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tabata et al. in view of Morinaka et al. and Lemelson as shown above in claim 22 and further in view of Kurth (US 5,095,252).

Together Tabata et al., Morinaka et al. and Lemelson teach everything taught in claim 23 except that the infrared emitter is a thermal tape.

Kurth teaches infrared target tape used as an infrared emitter (column 4, lines 25-27).

It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Tabata et al., Morinaka et al. and Lemelson with the teachings of Kurth to use thermal tape as an infrared emitter. The target tape is reflective and would therefore

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reflect the light from the object to the infrared sensor, so the thermal tape would give accurate results (Kurth, column 4, lines 23-27).

5. Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tabata et al. in view of Morinaka et al. and Lemelson as shown above in claim 22 and further in view of Takaki (US 5,779,365).

Together Tabata et al., Morinaka et al. and Lemelson teach all of the limitations of claims 24 and 25 except the limitation that the probe comprises a light source to illuminate the refrigeration component (current claim 24) and that the light source is an LED (current claim 25).

Takaki teaches a temperature probe with an LED (column 10, lines 5 and 24). It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Tabata et al., Morinaka et al. and Lemelson with the teachings of Takaki to form a temperature probe with an LED. A light source attached to the probe would illuminate the object to be tested and allow for more precise measurements.

6. Claims 31 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morinaka et al. as shown above in claims 29 and 33 in view of Lemelson.

Morinaka et al. teaches all the limitations of claims 31 and 35 except the limitation of a filter for positioning between the infrared sensor and the infrared emitter.

Tabata et al. teaches a filter for positioning between the infrared sensor and the component being measured, which is connected to the infrared emitter (column 2, lines 49-55).

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It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Morinaka et al. with the teachings of Tabata et al. to include a filter. The motivation for including the filter would be to filter out any unwanted rays to ensure an accurate temperature reading.

7. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morinaka et al. in view of Kurth.

Morinaka et al. teaches all of the limitations of claim 32 except the limitation that the infrared emitter is a thermal tape.

Kurth teaches infrared target tape used as an infrared emitter (column 4, lines 25-27).

It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Morinaka et al. with the teachings of Kurth to use thermal tape as an infrared emitter. The target tape is reflective and would therefore reflect the light from the object to the infrared sensor, so the thermal tape would give accurate results (Kurth, column 4, lines 23-27).

8. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morinaka et al. in view of Hartsell, Jr. et al. (US 5,992,395).

Morinaka et al. teaches all of the limitations of claim 36 except the limitation that the infrared emitter comprises a metallic black body.

Hartsell, Jr. et al. teaches the use of a black body radiator for an infrared emitter (column 2, lines 61-62).

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It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Morinaka et al. with the teachings of Hartsell, Jr. et al. to make the infrared emitter be a metallic black body. The motivation for making this combination would be enhance the amount of radiation emitted to ensure accurate results.

Allowable Subject Matter

Claims 2-10, 12-20, 37-44, 46-48, and 50-53 are allowed.

The following is an examiner's statement of reasons for allowance: Please see previous office action for reasons for allowance.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

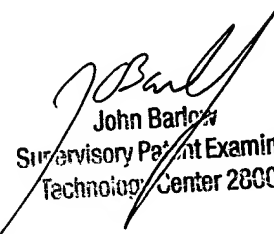
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meagan S Walling whose telephone number is (703) 308-3084. The examiner can normally be reached on Monday through Friday 8:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (703) 308-3126. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

msw


John Barlow
Supervisory Patent Examiner
Technology Center 2800